

REMARKS

The present Response is submitted in response to the Notice of Non-Compliant Amendment dated December 19, 2008. Such Notice required a substitute specification pursuant to 37 C.F.R. § 1.125(a) allegedly because Applicants' response dated September 17, 2008 included "the text of double brackets, which are placed before and after the deleted characters, are shown more than 5 consecutive characters."

37 C.F.R. § 1.125(a) states:

If the number or nature of the amendments or the legibility of the application papers renders it difficult to consider the application, or to arrange the papers for printing or copying, the Office may require the entire specification, including the claims, or any part thereof, be rewritten.

Applicants' respectfully traverse the requirement for a substitute specification on two grounds. First, Applicants respectfully submit that their response filed on September 17, 2008 did not include the deletion of any sequence of more than five consecutive characters using double brackets placed before and after the deleted characters. In particular, the largest word deleted by Applicants using double brackets was the word "the" in Claim 3, which is the deletion of three consecutive characters. Second, even if Applicants had deleted more than five consecutive characters using double brackets, Applicants respectfully submit that such an error does not render the application papers difficult to consider or to arrange for printing or copying. For at least these reasons, Applicants respectfully request withdrawal of the requirement of a substitute specification.

In the event that the requirement for a substitute specification is not withdrawal, then this paper should be considered a Petition to the Director's supervisory authority for the withdrawal of such requirement. The Commissioner is authorized to charge the fees associated with such a Petition to deposit account no. 05-0225.

In any event, Applicants, by this amendment, have removed the use of double brackets for deletions in the claims and have replaced them with strikethroughs. Accordingly, Applicants respectfully request that any objections

to the format of deletions in the claims be withdrawn and that examination of this application continue.

The remainder of these remarks replicates those in Applicants' response dated September 17, 2008.

Claims 1 - 57 are presently pending in the Application and claims 24 - 34 and 44 - 52 have been withdrawn from consideration while claims 1 - 23, 35 - 43 and 53 - 57 are presently rejected.

The Examiner has objected to claims 3, 4 and 8 for informalities therein, specifically that claims 3, 4 and 8 specify an addition step f) to the method steps recited in claim 1.

In response, the Applicant has amended claims 3, 4 and 8 by canceling claims 4 and 8 and amending claim 3 to recite a single step f) comprised of one or more of the process steps originally recited in claims 3, 4 and 8. It will be noted that the Applicant has also reviewed the claims for informalities therein and has amended certain other minor informalities in the claims, as may be seen from the claims as presented herein above.

It will be noted that these amendments are fully supported by the Application as originally filed, are not submitted to and do not operate to overcome the cited prior art, and do not add any new matter to or alter the subject matter or scope of the invention, the disclosure or the claims.

It is the Applicant's belief that these amendments to claims 3, 4 and 8 have addressed and overcome the informality cited by the Examiner in the objection to claims 3, 4 and 8 and the Applicant accordingly respectfully requests that the Examiner reconsider and withdraw the objections to claims 3, 4 and 8.

The Examiner has also rejected the claims over cited prior art, including:

- (a) claims 35 - 40 and 54 - 57 under 35 U.S.C. 102 over Zhang '779,
- (b) claims 1 - 6, 9 - 11, 14, 16 - 20, 41 and 53 under 35 U.S.C. 103 over Zhang '779 in view of Dhond et al. and further in view of Nefian et al. '018,
- (c) claims 7, 8, 12, 13, 15, 21 - 23 and 42 under 35 U.S.C. 103 over Zhang '779 in view of Dhond et al. and further in view of Nefian et al. '018 and further in view of Woods et al., and

(d) claim 43 under 35 U.S.C. 103 over Zhang '779 in view of Woods et al.

It will be noted for purposes of the following discussions that claims 1, 35, 43, 53 and 54 are independent claims and that claims 2 - 23 are directly or indirectly dependent from claim 1 and thus incorporate all limitations of claim 1, that claims 36 - 41 are dependent from claim 35 and thus incorporate all limitations of claim 35, and that claims 55 - 57 are directly or indirectly dependent from claim 54 and thus incorporate all limitations of claim 54.

(a) Rejection of claims 35 - 40 and 54 - 57 under 35 U.S.C. 102 over Zhang '779

First considering the rejections of claims 35 - 40 and 54 - 57 under 35 U.S.C 102 over Zhang '779, and upon review of claims 35 - 40 and 54 - 57 in view of Zhang '779, the Applicant has elected to amend claims 35 and 54 to more clearly and explicitly recite the distinctions between the present invention and Zhang '779 and to amend claims 36, 37, 40, 41 and 55 as necessary to comply with the amended claims 35 and 54, including canceling claim 37 and amending claim 41 in conformity with claim 35 although claim 41 was not included in the rejection under consideration. It will be noted that all of these amendments are fully supported by the specification and claims as originally filed and that these amendments do not add any new matter to or alter the subject matter or scope of the invention, the specification or the claims.

Therefore considering the present invention as recited in independent claims 35 and 54 as amended herein above, with particular reference to claim 35 as representative also of claim 54, claim 35 recites that the present invention is directed to a stereoscopic display system customized for a user's stereoscopic fusing capability. As recited therein, the stereoscopic display system includes an image source, a storage device for storing customization information describing an capability of the user to fuse stereoscopic images, a stereoscopic display device, and a processor for receiving images from the image source and the customization information from the storage device and processing the images to provide a rendered image to the stereoscopic display, including modifying the disparity of one or more pixels in the image according to the capability of the user to fuse stereoscopic images.

Next considering the teachings of Zhang '779, Zhang '779 describes a video conferencing system operating between physically separated conferees to transmitting views of each of the conferees to each of the other conferees during a conference. The Zhang '779 system includes two or more image sources, that is, video cameras, at each conferee location, an image processor, a storage device and a display and obtains multiple views of each conferee from different viewing angles. The Zhang '779 system further captures head and eye angle information for each conferee and selects a camera viewing angle for each conferee so that each conferee appears to be in making eye contact with the other conferees.

It is therefore apparent that there are a number of fundamental distinctions between the present invention is recited in claims 35 and 54 and the teachings of Zhang '779.

For example, Zhang '779 does not in fact describe a stereoscopic display system and does not even mention stereoscopic images or a stereoscopic display, but instead describes only a system capable of providing and selecting among multiple non-stereoscopic single image views of a given scene, that is, of a given conferee. Zhang '779 accordingly does not and cannot address or consider any of the issues addressed and functions performed by the system of the present invention as recited in claims 35 and 54, such as the display of stereoscopic images, as opposed to the display of separate non-stereoscopic single images, the capabilities of a user's visual system to view stereoscopic images by fusing stereoscopic images, or the modification of stereoscopic images according to the visual capabilities of a user.

Considering these distinctions between the present invention as recited in claims 35 and 54 and the teachings of Zhang '779 in further detail, the present invention as recited in claims 35 and 54 acquires information pertaining to the capability of the user's visual system, that is, the capabilities of the user's eyes and mind, to see stereoscopic images by fusing corresponding pairs of stereoscopic image pairs, and uses that information to modify the stereoscopic images to fall within the capabilities of the user's stereoscopic vision characteristics.

In complete contrast from the present invention, the Zhang '779 system captures and employs only information pertaining to the positions of the

conferee's heads and eyes, which is completely unrelated to the visual characteristics of a viewer's eyes and mind. The Zhang '779 system therefore does not and cannot consider or function with information pertaining to the capabilities of the user's visual system and, in particular, the capabilities of the user's eyes and mind, to see stereoscopic images

In further complete distinction from the present invention, the Zhang '779 system uses the information identifying a conferee's eye and head positions only to select, from a plurality of possible single image views of a conferee, a view of the conferee that gives the impression that the conferee is making eye contact with a viewer of the selected image. The Zhang '779 system therefore does not even create or function with stereoscopic images or stereoscopic image pairs, and does not and cannot modify stereoscopic images to fall within a user's stereoscopic viewing capabilities.

It is therefore apparent that Zhang '779 does not teach or suggest a stereoscopic display system that includes a storage device for storing customization information describing a capability of the user to fuse stereoscopic images or a processor for rendering stereoscopic imagery to provide stereoscopic image pair information to a stereoscopic display, including manipulating the relative disparity in a stereoscopic image pair dependent upon a disparity map and the customization information.

It is therefore the Applicant's belief and position that for at least the above reasons the present invention as recited in claims 35 and 54 is completely and fundamentally and patentably distinguished over and from the teachings of Zhang '779 under the requirements and provisions of 35 U.S.C. 102 and 35 U.S.C. 103.

It is further the Applicant's belief and position that, because claims 36 - 40 and 55 - 57 are respectively dependent from claims 35 and 54 and thereby incorporate by dependency all recitations and limitations of claims 35 and 54, claims 36 - 40 and 55 - 57 are likewise and for the same reasons fundamentally and patentably distinguished over and from the teachings of Zhang '779 under the requirements and provisions of 35 U.S.C. 102 and 35 U.S.C. 103.

The Applicant therefore respectfully requests that the Examiner reconsider and withdraw all rejections of claims 35 - 40 and 54 - 57 under 35

U.S.C. 102 over Zhang '779, and the allowance of claims 35 - 40 and 54 - 57 as amended herein above.

(b) Rejection of claims 1 - 6, 9 - 11, 14, 16 - 20, 41 and 53 under 35 U.S.C. 103 over Zhang '779 in view of Dhond et al. and further in view of Nefian et al. '018

Next considering the rejection of claims 1 - 6, 9 - 11, 14, 16 - 20, 41 and 53 under 35 U.S.C. 103 over Zhang '779 in view of Dhond et al. and further in view of Nefian et al. '018, it will be noted that claims 2 - 6, 9 - 11, 14 and 16 - 20 are directly or indirectly dependent from independent claim 1 and thereby incorporate all recitations and limitations of claim 1 by dependency therefrom. Claim 41, in turn, is dependent from independent claim 35, which has been discussed in detail herein above, and thereby incorporates all recitations and limitations of independent claim 35, while claim 53 is an independent claim that generally parallels the recitations of independent claim 1.

Claims 35 and 41

First considering the present invention as recited in independent claims 35 and 41, the recitations and limitations of claim 35 and the fundamental and patentable distinctions of claim 35 over Zhang '779 have been discussed in detail herein above and are incorporated into the present discussions by reference to avoid unnecessary repetition. It must also be noted that, because claim 41 is dependent from and incorporates all recitations and limitations of claim 35, claim 41 is likewise patentably distinguished over and from Zhang '779 under 35 U.S.C. 102 and 35 U.S.C. 103 for the same reasons that claim 35 is patentably distinguished over Zhang '779 under 35 U.S.C. 102 and 35 U.S.C. 103.

In brief, therefore, and presently considering only the recitations of claim 35, which are incorporated into claim 41 by dependency, the present invention is directed to a stereoscopic display system wherein the system receives stereoscopic images from an image source and customization information describing an capability of the user to fuse stereoscopic images and modifies the disparity of the stereoscopic images according to the capability of the user to fuse stereoscopic images to provide rendered stereoscopic images adapted to the viewer's stereoscopic viewing capabilities to a stereoscopic display.

As discussed above, Zhang '779 does not teach or suggest a stereoscopic display system that includes a storage device for storing

customization information describing a capability of the user to fuse stereoscopic images or a processor for rendering stereoscopic imagery to provide stereoscopic image pair information to a stereoscopic display, including manipulating the relative disparity in a stereoscopic image pair dependent upon a disparity map and the customization information.

As also discussed above, therefore, it is the Applicant's belief and position that claims 35, and thereby claim 41 by dependency from claim 35, are thereby completely, fundamentally and patentably distinguished over and from Zhang '779 under the requirements and provisions of 35 U.S.C. 102 and 35 U.S.C. 103 for at least the reasons discussed above.

Therefore next considering claim 41 and the teachings of Dhond et al. and Nefian et al. '018, it must be noted that the recitations of claim 35 that are incorporated into claim 41 include recitations regarding the modification of the disparity of stereoscopic images according to the capability of the user to fuse stereoscopic images while claim 41 further recites the determination of an aim disparity range for the user and the generation of a customized disparity map correlating with the user's fusing capability of the given stereoscopic display.

The Examiner cites Dhond et al. and Nefian et al. '018 with regard to the generation and use of disparity maps. More specifically, the Examiner states that Nefian et al. '018 discloses scene disparity maps, the generation of customized disparity maps, and the application of customized disparity maps in the rendering of stereoscopic images for subsequent display and that Dhond et al. discloses the determination of an aim disparity range for a user. The Applicant, however, respectfully disagrees with the interpretation and application of Nefian et al. '018 and Dhond et al. with respect to claims 35 and 41.

More specifically, Nefian et al. '018 discloses obtaining a scene disparity map, but only for the purpose of determining distance information within the scene which can then be used to segment objects for gesture recognition. Nefian et al. '018 does not, however, disclose or suggest modifying disparity maps or rendering images based upon the modified disparity map, and absolutely does not discuss or suggest the creation of a disparity map that is customized based upon information relating to a user's capability to fuse stereoscopic images for a stereoscopic display.

Dhond et al. in turn discloses a method, as illustrated in Fig. 3 of Dhond et al. and the corresponding text of the specification, for determining stereoscopic correspondence between stereoscopic images, which is required to form a disparity map of the images, and the generation a disparity map of a stereoscopic image from edge maps of right and left stereoscopic images. Dhond et al., however, does not disclose or suggest processing the images to alter disparities within the images as taught in the present invention, but instead describes only a method for estimating disparity between the images of a stereoscopic pair.

It is therefore the Applicant's belief and position that neither Nefian et al. '018 nor Dhond et al. nor the any combination of Nefian et al. '018 and Dhond et al. discloses or even suggests the recitation in claim 35 of the modification of the disparity of stereoscopic images according to the capability of the user to fuse stereoscopic images or the recitation in claim 41 of the determination of an aim disparity range for the user and the generation of a customized disparity map correlating with the user's fusing capability of the given stereoscopic display.

It is further the Applicant's belief and belief that, for the above discussed reasons, the recitations of claims 35 and 41 are not disclosed or even suggested by any of Zhang '779, Nefian et al. '018 or Dhond et al. or by any combination of Zhang '779, Nefian et al. '018 and Dhond et al. under the requirements and provisions of 35 U.S.C. 103 and that the present invention as recited in claims 35 and 41 are fully and patentably distinguished over and from Zhang '779, Nefian et al. '018 or Dhond et al. and all combinations of Zhang '779, Nefian et al. '018 and Dhond et al. under the requirements and provisions of 35 U.S.C. 103.

The Applicant accordingly respectfully requests that the Examiner reconsider and withdraw all rejections of claims 35 and 41 over Zhang '779, Nefian et al. '018 or Dhond et al. and all combinations of Zhang '779, Nefian et al. '018 and Dhond et al. under the requirements and provisions of 35 U.S.C. 103, and the allowance of claims 35 and 41 as presented herein above.

Claims 1 - 6, 9 - 11, 14, 16 - 20 and 53

Next considering independent claims 1 and 53 and dependent claims 2 - 6, 9 - 11, 14 and 16 - 20, the teachings of Zhang '779, Dhond et al. and

Nefian et al. '018 have been described and discussed above and will be discussed again in the following only to the extent necessary to point the distinctions of claims 1 - 6, 9 - 11, 14, 16 - 20 and 53 over Zhang '779, Dhond et al. and Nefian et al. '018. It should also be noted that because claims 2 - 6, 9 - 11, 14 and 16 - 20 are dependent from claim 1 and thereby incorporate all recitations and limitations of claim 1, the following discussions will focus first and primarily on claims 1 and 53 and will address claims 2 - 6, 9 - 11, 14 and 16 - 20 as necessary.

First considering the present invention as recited in claims 1 and 53, it will be noted that the recitations and limitations of claim 53 are, for purposes of the immediately following discussions, generally parallel to but in greater detail than the recitations and limitations recited in claim 1.

Therefore considering the present invention as recited in claims 1 and 53 and in particular in claim 1, which has been amended to more clearly and explicitly point out the distinctions between the present invention and the cited prior art, the present invention is directed to a method for customizing the scene content of a stereoscopic image display according to the stereoscopic image fusing capability of a user or group of users. As recited in claim 1, the method includes the steps of (a) obtaining customization information describing a capability of the user to fuse stereoscopic images, (b) obtaining a scene disparity map for a pair of given stereo images and/or a three-dimensional (3D) computer graphic model, (c) determining an aim disparity range for the user, (d) generating a customized disparity map and/or rendering conditions for a three-dimensional (3D) computer graphic model correlating with the user's fusing capability of the given stereoscopic display, and (e) applying the customized disparity map and/or rendering conditions for rendering or re-rendering the stereo images for subsequent display.

It will be noted that claim 53 contains similar recitations and limitations, although expressed in further detail, and has also been amended to more clearly and explicitly point out the distinctions between the present invention and the cited prior art.

Next considering the cited prior art references, as discussed above with respect to claims 35 and 41 Zhang '779 does not teach or suggest a stereoscopic display system with customization information describing a capability of the user to fuse stereoscopic images for the rendering of stereoscopic

imagery by manipulating the relative disparity in a stereoscopic image pair dependent upon a disparity map and the user customization information.

As also discussed above, while Nefian et al. '018 discloses obtaining a scene disparity map, Nefian et al. '018 does so only for the purpose of determining distance information within the scene, which can then be used to segment objects for gesture recognition.

Again, however, Nefian et al. '018 does not disclose or suggest modifying disparity maps or rendering images based upon the modified disparity map, and absolutely does not discuss or suggest the creation of a disparity map that is customized based upon information relating to a user's capability to fuse stereoscopic images for a stereoscopic display.

As also discussed above, Dhond et al. discloses a method for determining stereoscopic correspondence between stereoscopic images, which is required to form a disparity map of the images, and the generation a disparity map of a stereoscopic image from edge maps of right and left stereoscopic images.

Again, however, Dhond et al. does not disclose or suggest processing the images to alter disparities within the images as taught in the present invention, but instead describes only a method for estimating disparity between the images of a stereoscopic pair.

It is therefore the Applicant's belief and position that neither any of Zhang '779, Nefian et al. '018 or Dhond et al. nor any combination of Zhang '779, Nefian et al. '018 and Dhond et al. disclose or suggest the recitations of claims 1 or 53 of (a) obtaining customization information describing a capability of the user to fuse stereoscopic images, (b) obtaining a scene disparity map for a pair of given stereo images and/or a three-dimensional (3D) computer graphic model, (c) determining an aim disparity range for the user, (d) generating a customized disparity map and/or rendering conditions for a three-dimensional (3D) computer graphic model correlating with the user's fusing capability of the given stereoscopic display, or (e) applying the customized disparity map and/or rendering conditions

It is therefore the Applicant's belief and belief that, for the above discussed reasons, the present invention as recited in claims 1 and 53 are fully and patentably distinguished over and from Zhang '779, Nefian et al. '018 or Dhond et

al. and all combinations of Zhang '779, Nefian et al. '018 and Dhond et al. under the requirements and provisions of 35 U.S.C. 103.

The Applicant accordingly respectfully requests that the Examiner reconsider and withdraw all rejections of claims 1 and 53 over Zhang '779, Nefian et al. '018 or Dhond et al. and all combinations of Zhang '779, Nefian et al. '018 and Dhond et al. under the requirements and provisions of 35 U.S.C. 103, and the allowance of claims 1 and 53 as presented herein above.

It is further the Applicant's belief and position that in as much as claims 2 - 6, 9 - 11, 14 and 16 - 20 are dependent from claim 1 and thereby incorporate all recitations and limitations of claim 1, claims 2 - 6, 9 - 11, 14 and 16 - 20 are thereby, for the same reasons as claim 1, fully and patentably distinguished over and from Zhang '779, Nefian et al. '018 or Dhond et al. and all combinations of Zhang '779, Nefian et al. '018 and Dhond et al. under the requirements and provisions of 35 U.S.C. 103.

In addition, however, and further with respect to claims 2 - 6, 9 - 11, 14 and 16 - 20, the Examiner states with respect to claim 2 that Zhang '799 discloses customization information that includes a user profile and/or a rendering intent subject to a predetermined task choice or skill level. Upon review of Zhang '779, however, it is clear that actually discloses the use of a personalized three dimensional model of the conferee stored in a database to provide a template match to aid head tracking. Again, and as discussed above, the user information employed by Zhang '799 merely includes physical information pertaining to the user's apparent physical line of sight by providing information that may assist in determining the orientation of the user's eyes and head. In this instance the information is a three dimensional model of the user that may be used as a comparison model for determining the orientation of the user's head.

In fundamental contrast from the present invention, Zhang '779 does not include customization information relevant to the rendering of image information as provided in the current invention and, in particular, does not disclose the use of any information which specifies the user's reason for rendering image information.

The Applicant therefore respectfully requests that the Examiner reconsider and withdraw the stated rejection of claim 2, and the allowance of claim 2 as presented herein above.

With regard to claim 3, the Examiner states that Zhang '799 further provides a step for obtaining display attributes prior to determining the aim disparity range for the user. Upon review of Zhang '799, however, it is apparent that Zhang actually states, as acknowledged by the Examiner, that the system will capture different views of the conferees. It is unclear to the Applicant how a method or step for capturing different views of conferees could be interpreted as equivalent to determining the attributes of a display, where the patent application clearly and explicitly describes these attributes as information "such as the resolution, size of display, point of optical convergence, and plane of accommodative focus". As is apparent, the display attribute information employed by the present invention is clearly and fundamentally a different type of information than a view of a conferee and the Applicant assumes that the comparison arose from a misreading of Zhang '799.

The Applicant therefore respectfully requests that the Examiner reconsider and withdraw the stated rejection of claim 3, and the allowance of claim 3 as presented herein above.

With regard to claim 4, the Examiner states that Zhang '799 discloses the display of stereo images compatible with the user's capacity for fusing stereoscopic imagery. Although the paragraph of Zhang '799 cited by the Examiner states that the system can capture a pair of stereoscopic images, Zhang '779 in fact has no further discussion or teachings regarding stereoscopic images or the display of stereoscopic images on a stereoscopic display and the section of Zhang '799 referred to by the Examiner is little more than a passing remark by Zhang. The system and method described in Zhang '799 in fact performs morphological transformations on the two images captured by the two cameras to form a single non-stereoscopic image that appears to be taken with a single camera that is located spatially between the two cameras and that shows the conferee at the desired viewing angle to present the illusion of eye contact with the viewer of the image, as described in paragraphs [0074] through [0080] of Zhang '799. It is therefore apparent that the Zhang '779 system does not in fact create or present stereoscopic images and in fact cannot generate and present stereoscopic images of any form.

The Applicant therefore respectfully requests that the Examiner reconsider and withdraw the stated rejection of claim 4, and the allowance of claim 4 as presented herein above.

With regard to claim 5, the Examiner states that Nefian et al. '018 describes the creation of a 3D computer graphic model. Upon review of Nefian '018, however, it is apparent that Nefian '018 in fact describes a method for determining stereo correspondence for creating a depth map from images and does not, in fact, describe the creation of a 3D computer graphic model.

The Applicant therefore respectfully requests that the Examiner reconsider and withdraw the stated rejection of claim 5, and the allowance of claim 5 as presented herein above.

With regard to claims 9, 10, 11, 14, 16, 17, 18, 19 and 20, Dhond et al. does not describe or suggest the generation of a disparity map customized for display to a one or a group of users. Dhond et al. instead discusses a method for creating a scene disparity map for a pair of images, which does not include any information regarding the user's ability to fuse disparity information within a stereoscopic image pair as required in claim 1 and as thereby required in claims 9, 10, 11, 14, 16, 17, 18, 19 and 20 by dependence from claim 1.

The Applicant therefore respectfully requests that the Examiner reconsider and withdraw the stated rejection of claims 9, 10, 11, 14, 16, 17, 18, 19 and 20, and the allowance of claims 9, 10, 11, 14, 16, 17, 18, 19 and 20 as presented herein above.

In conclusion, therefore, and for the above discussed reasons, the Applicant accordingly respectfully requests that the Examiner reconsider and withdraw all rejections of claims 2 - 6, 9 - 11, 14 and 16 - 20 over Zhang '779, Nefian et al. '018 or Dhond et al. '018 and all combinations of Zhang '779, Nefian et al. '018 and Dhond et al. '018 under the requirements and provisions of 35 U.S.C. 103, and the allowance of claims 2 - 6, 9 - 11, 14 and 16 - 20 as presented herein above.

(c) Rejection of claims 7, 8, 12, 13, 15, 21 - 23 and 42 under 35 U.S.C. 103 over Zhang '779 in view of Dhond et al, and further in view of Nefian et al. '018 and further in view of Woods et al.

First considering claim 15 alone, Nefian '018 does not describe or suggest the generation of a disparity map customized for display to a one or a

group of users. Nefian '018 instead discusses a method for creating a scene disparity map for a pair of images to create a depth map for segmentation of a user from the background, which does not include any information regarding the user's ability to fuse disparity information within a stereoscopic image pair as required in claim 1 and as thereby required in claim 15 by dependence from claim 1.

Claims 7, 8, 12, 13, 15, 21, 22, and 23

Therefore next considering claims 7, 8, 12, 13, 15, 21, 22, and 23, as described herein above claims 7, 8, 12, 13, 15, 21, 22, and 23 are each directly or indirectly dependent from claim 1 and thereby incorporate all recitations and limitations of claim 1 by dependency.

It is further the Applicant's belief and position that in as much as claims 7, 8, 12, 13, 15, 21, 22, and 23 are dependent from claim 1 and thereby incorporate all recitations and limitations of claim 1, claims 7, 8, 12, 13, 15, 21, 22, and 23 are thereby fully and patentably distinguished over and from Zhang '779, Nefian et al. '018 or Dhond et al. and all combinations of Zhang '779, Nefian et al. '018 and Dhond et al. under the requirements and provisions of 35 U.S.C. 103, for the same reasons that claim 1 is fully and patentably distinguished these references.

Therefore considering the teachings of Wood et al. with respect to claims 7, 8, 12, 13, 15, 21, 22, and 23, Woods et al. does not describe or suggest the manipulation of a disparity map. Instead, Woods et al. teaches that the disparities within an actual scene and the disparities provided on a stereoscopic display infer different distances to the user and that depth information is distorted when a user views stereoscopic information on a visual display.

Woods et al. does not, however, describe or suggest the modification of disparity maps or the rendering of stereoscopic images based upon the modified disparity map, or the creation of a disparity map that is customized based upon information relating to a user's capability to fuse stereoscopic images for a stereoscopic display, as required by claims 7, 8, 12, 13, 15, 21, 22, and 23.

Further with regard to claims 7 and 8, Woods et al. discusses such matters as convergence points and viewing distances, but does not teach or

suggest that these factors should be monitored in a stereo image display system as required by claims 7 and 8.

With regard to claims 12, 13, 15, 21, 22, and 23, Woods et al. does not provide methods for re-rendering the stereoscopic images as discussed within these claims, as required by claims 12, 13, 15, 21, 22, and 23.

It is thereby the Applicant's belief and position that, for the reasons discussed above, claims 7, 8, 12, 13, 15, 21, 22, and 23, which incorporate all recitations and limitations of claim 1, are fully and patentably distinguished over and from Zhang '779, Nefian et al. '018, Dhond et al. or Wood et al. and all combinations of Zhang '779, Nefian et al. '018, Dhond et al. and Wood et al. under the requirements and provisions of 35 U.S.C. 103..

The Applicant accordingly respectfully requests that the Examiner reconsider and withdraw all rejections of claims 7, 8, 12, 13, 15, 21, 22, and 23 over Zhang '779, Nefian et al. '018, Dhond et al. or Wood et al. and all combinations of Zhang '779, Nefian et al. '018, Dhond et al. and Wood et al. under the requirements and provisions of 35 U.S.C. 103, and the allowance of claims 7, 8, 12, 13, 15, 21, 22, and 23 as presented herein above.

(d) Rejection of claim 43 under 35 U.S.C. 103 over Zhang '779 in view of Woods et al.

Finally considering the rejection of claim 43, the present invention as recited in claim 43 is directed to a stereoscopic display system that determines an aim disparity range associated with a stereoscopic user and that includes a means for determining aim disparity range based on optometric data. As recited in claim 43, the aim disparity range determining means in turn includes a means for obtaining optometric parameters for a set of accommodation planes, a means for generalizing the optometric parameters for a different set of accommodation planes, a means for calculating optometric parameters for a single accommodation plane of display, a means for obtaining comfort values for a user's fusing capability, and a means for determining the aim disparity range based on the optometric parameters and above steps.

Consideration of claim 43 will therefore show that the present invention as recited in independent claim 43 is directed to the same subject matter and elements as, for example, independent claims 1 and 53.

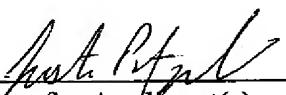
As discussed in detail herein above, however, Zhang '799 does not teach or suggest Zhang '779 does not teach or suggest a stereoscopic display system with customization information describing a capability of the user to fuse stereoscopic images for the rendering of stereoscopic imagery within a user's comfort values by manipulating the relative disparity in a stereoscopic image pair dependent upon a user's fusing capability, a aim disparity range based on the optometric parameters a disparity map and accommodation planes.

Woods et al. in turn, and as also discussed above, does not teach or suggest the modification of disparity maps or the rendering of stereoscopic images based upon the modified disparity map, or the creation of a disparity map based upon information relating to a user's capability to fuse stereoscopic images, the use of convergence points and viewing distances in generating stereoscopic images, or methods for re-rendering the stereoscopic images as required by claim 43.

It is thereby the Applicant's belief and position that, for the reasons discussed above, claim 43 is fully and patentably distinguished over and from Zhang '779 and Wood et al. under the requirements and provisions of 35 U.S.C. 103. The Applicant accordingly respectfully requests that the Examiner reconsider and withdraw all rejections of claim 43 over Zhang '779 and Wood et al. under the requirements and provisions of 35 U.S.C. 103, and the allowance of claim 43 as presented herein above.

It is believed that the foregoing is a complete response to the Office Action and that the claims are in condition for allowance. Favorable reconsideration and early passage to issue is therefore earnestly solicited.

Respectfully submitted,



Attorney for Applicant(s)
Registration No. 52,118

Justin D. Petruzzelli/dlm
Rochester, NY 14650
Tele: (585) 726-7522
FAX: (585) 477-4646